

## HEALTH

Antarctica's extreme environment and relative isolation challenge human health and wellness. **A medical clinic and physician are available at all three research stations.** Health is a 24-hour-a-day consideration; it involves occupational and non-occupational issues, both physical and mental. Emergencies risk not only the victim, but also others such as medical personnel and flight crews who provide treatment and evacuation. This expenditure of money, manpower, and equipment resources diminishes the ability to perform the program's principal mission of scientific research.

To help minimize risk, the program requires the advance medical screening described in Chapter 2. Certain medical conditions can present unexpected risks under antarctic conditions, where each participant must be capable of physical activity wearing bulky cold weather gear while being exposed to low temperatures and high altitudes, possibly under survival conditions.

**Common Colds.** Although the 'Crud' waylays many antarctic travelers, it is not true that exposure to cold temperature causes upper respiratory infections or 'colds.' They are caused by a host of viruses and are spread by droplets. Covering your mouth when you cough/sneeze, not sharing cups and eating utensils, and washing your hands after coughing or sneezing will reduce exposure.

Colds usually last from seven to ten days with or without treatment. The best care is rest, adequate nutrition, and increased fluid intake.

Antarctica is a polar desert and very dry. In such a dry environment large amounts of fluid are lost via your skin and lungs and the mucous membranes lining your nose and mouth become dry and no longer protect you against viruses. Increase your fluid intake according to your location and your level of physical activity. Caffeine and alcohol will increase fluid loss, so avoid consuming large amounts of beverages/foods containing alcohol and caffeine, particularly if you are dehydrated. Chocolate and many soft drinks contain caffeine.

**Sunburn.** Snow or ice reflects 85% of ultraviolet radiation. Overestimate the protection necessary and carry a sunscreen with an SPF number of 15 or greater that includes both UVA and UVB protection. Reapply frequently according to package directions.

**Altitude Sickness.** Some of the field camps and Amundsen-Scott South Pole Station are at physiological elevations above 10,000 feet (3,000 meters). The flight from McMurdo doesn't allow time to acclimate enroute. If you are assigned to these areas, you should check with your doctor to see if living at the high altitudes will affect any preexisting medical problem. A medicine called acetazolamide will be available at McMurdo Clinic. Treatment should begin 24 hours before leaving for the high altitude. This medicine is contraindicated for those allergic to sulfa medications. The signs of altitude sickness are shortness of breath that is not relieved promptly by resting, headache, dizziness, and difficulty sleeping. They can be minimized

### Environmental Guidelines

*Aspects of environmental protection are covered in many parts of this guidebook. It is your responsibility to know them. Here are a few more common-sense examples of how you can do your part.*

- Don't Litter.** Use the appropriate receptacles and comply with the waste management program at your station. Winds can turn litter into dangerous flying materials.
- Secure construction sites.** Pick up debris, and dispose of it properly. Protect materials outdoors from scattering by the wind.
- Handle waste properly.** If you handle waste, know the rules. If you do not know them, ask a supervisor, a lab manager, RPSC Waste Management employee, or an NSF representative.
- Leave only footprints.** Bring everything back to McMurdo, Palmer, South Pole or the ship from field camps. This includes human waste.
- Handle lab chemicals properly (including photographic chemicals).** Pack, store, and identify them correctly. Arrange for proper disposal according to instructions.
- Don't spill fuel.** Take the time and precautions necessary to avoid spills. Waste fuels and lubricants have to be labeled and stored for return to the USA. Any spill should be reported to the McMurdo fire house or the Station Manager at South Pole and Palmer Stations.
- Help clean up.** Volunteers assemble from time to time to police an area. This is an opportunity to work with your colleagues to keep camp and station areas clean.
- Remove all waste from camps.** Any camp or installation outside of a station is required to return all waste, including human waste, to the station for proper disposal. McMurdo in particular is set up to handle wastes generated at remote sites.
- Avoid disturbing wildlife.** In particular, do not walk on vegetation, touch or handle birds or seals, startle or chase any bird from its nest, wander indiscriminately through penguin or other bird colonies.
- Do not introduce plants or animals** into the Antarctic or collect eggs or fossils.
- Do not enter any of the Antarctica Specially Protected Areas,** and avoid Sites of Special Scientific Interest and Antarctic Specially Managed Areas.
- Avoid interference with scientific work** and do not enter unoccupied buildings or refuges except in an emergency.
- Take care of antarctic historic monuments.**
- Always keep together with your party.**

by avoiding strenuous activities the first two days, increasing fluid intake, stopping or limiting smoking, and avoiding alcohol and caffeine. Altitude sickness can occur as late as five days after reaching altitude, and occasionally, can progress to a serious medical condition requiring evacuation to a lower altitude. Anyone developing symptoms should see the local medical provider.

**Snowblindness.** Caused by exposure of the eyes to excessive light, at levels typical in Antarctica, this condition can be serious, painful, and disabling. You prevent snowblindness by wearing 100% UV protective sunglasses. Snow goggles are issued to those who need them. Everyone in Antarctica must have sunglasses that protect the eyes from ultraviolet radiation. Some 'dark' glasses do not block UV. They do more harm than good because the iris widens to admit more light. Sunglasses are especially important on windy days to protect against volcanic ash particles in the eyes. For more information refer to Chapter 3: What and How to Pack.

**Female Considerations.** Many women living in Antarctica experience a variety of changes in their menstrual cycles. It is thought that this occurrence may be due to the changing daylight cycles and to the close proximity of other women.

**Smoking.** In addition to the well known health hazards, smoking greatly increases your chance of dehydration. Smoking is prohibited in all indoor areas except those designated specifically as smoking areas. Smoking outside is allowed except in fueling and hazardous areas. Put cigarette butts in appropriate containers—not on the ground.

## RECREATION AND PERSONAL CONDUCT

A wide range of recreational opportunities are available while working for the U.S. Antarctic Program. McMurdo has the largest range of organized activities due to its size and location, while Pole and Palmer Stations have more spontaneously organized events. Station specific information is provided later in this chapter. Off-station activities such as hiking may be pursued in accordance with safety rules issued at the stations. Residents are encouraged to use the recreational facilities and activities.

Because of the nature of Antarctica, certain restrictions are required to ensure safety. Many operational procedures may impinge on what may appear to be excellent forms of recreation. For example, restrictions forbid a Sunday stroll through the pressure ridges near Scott Base to see the seals, walks on un-flagged snow or ice fields, or local mountain climbing. Accidents have happened, and we wish to prevent recurrences. Different people perceive risk and hazards in different ways; heed the wisdom of those who have gone before you, and follow the safety procedures that have evolved. Antarctica is as cold, and as indifferent to one's presence, as it was when Robert F. Scott was there.

The work equipment you are issued is for authorized activities. Due to the nature of the field equipment you have access to, you may be tempted to engage in unauthorized overnight camping trips, skidoo races, or Sunday drives to the ice runway. You are authorized to use the U.S. Government equipment issued to you only to accomplish your approved program.

The guidelines and operational procedures that govern your conduct while in Antarctica vary considerably at different locations and with changing conditions, particularly weather. Familiarize yourself with local knowledge at your station or camp, and follow local rules. It is impossible to write rules to cover all circumstances and you are expected to regulate your own activities to avoid injury to yourself and hazards to others who might have to attempt rescue. Antarctica—every part of it—can suddenly and unexpectedly become a very dangerous place.

Attendance of an **Outdoor Safety Training Session** is required by McMurdo residents before they are allowed to recreate off-station. This half-hour discussion covers rules and guidelines for safe travel and explains the check-out process.

Safety briefings are provided at Pole and Palmer. Additional training is required at Palmer for boating.



Photo by Kristan Hutchison

*A U.S. Antarctic participant enjoys the view from Castle Rock near McMurdo Station on a Sunday hike.*